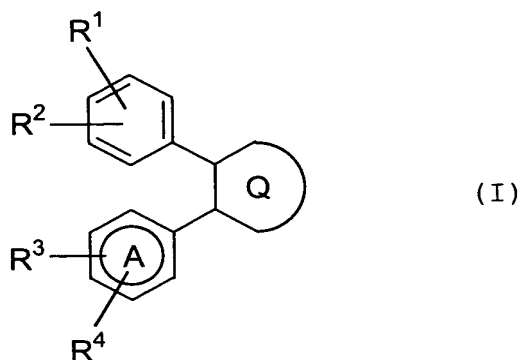
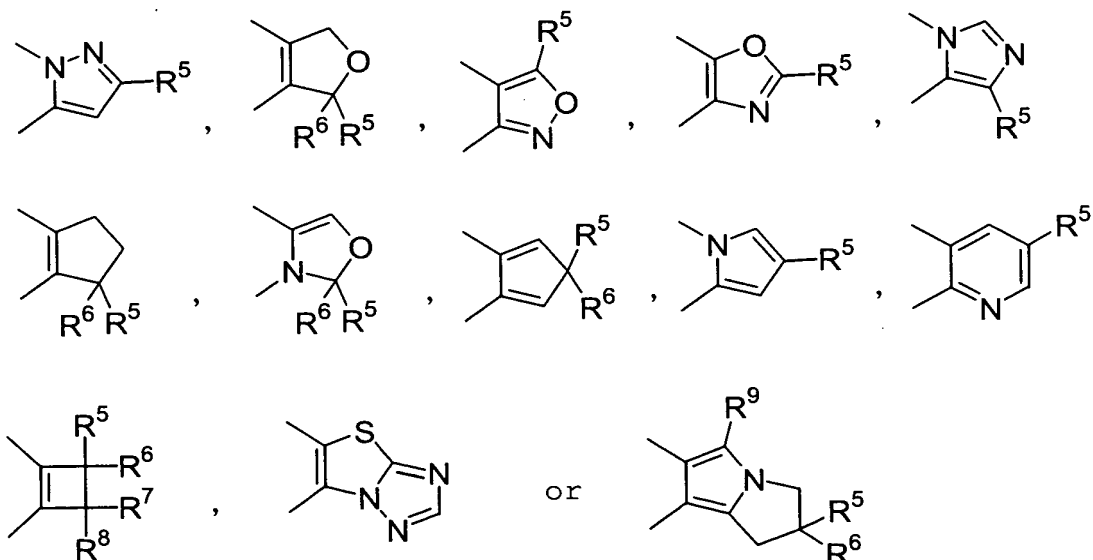


Claims:

1. A large conductance calcium-activated K channel opener comprising a compound of the formula (I):



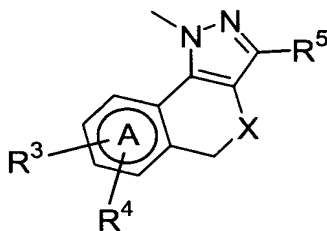
5 wherein R¹ is a halogen, aminosulfonyl, an alkyl-sulfonyl or an alkanoylamino-sulfonyl; R² is hydrogen or a halogen; R³ and R⁴ may be the same or different from each other and each is hydrogen, a halogen, an
10 alkyl or an alkoxy; Ring A is benzene, pyridine or a cycloalkane, and Ring Q is



15 where R⁵ is a halogen, an alkyl or a haloalkyl; R⁶ is hydrogen or an alkyl; or R⁵ and R⁶ may be combined to each other to form oxo; R⁷ and R⁸ are hydrogen or may be combined to each other to form oxo; and R⁹ is a

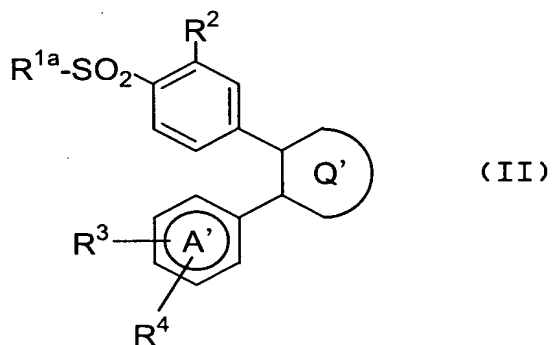
carboxyalkyl,

or Ring Q and Ring A may be combined to each other to form a fused ring of the formula:

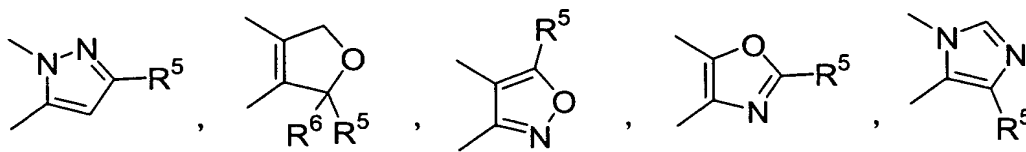


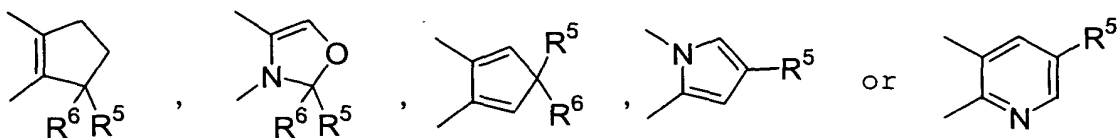
5 where X is sulfur or oxygen, and R³, R⁴ and R⁵ have the same meanings as defined above, or a pharmaceutically acceptable salt thereof as an active ingredient.

10 2. The large conductance calcium-activated K channel opener according to Claim 1, wherein the opener contains a compound of the formula (II):



15 wherein R^{1a} is amino, an alkyl or an alkanoylamino; R² is hydrogen or a halogen; R³ and R⁴ may be the same or different from each other and each is hydrogen, a halogen, an alkyl or an alkoxy; Ring A' is benzene or a cycloalkane, and Ring Q' is





where R⁵ is a halogen, an alkyl or a haloalkyl; R⁶ is hydrogen or an alkyl; or R⁵ and R⁶ may be combined to each other to form oxo,

5 or a pharmaceutically acceptable salt thereof as an active ingredient.

3. The large conductance calcium-activated K channel opener according to Claim 1, wherein the opener contains a
10 compound selected from the group consisting of:

- (1) celecoxib,
- (2) rofecoxib,
- (3) valdecoxib,
- (4) parecoxib,
- 15 (5) tilmacoxib,
- (6) 4-(4-chloro-5-(3-fluoro-4-methoxyphenyl)imidazol-1-yl)benzenesulfonamide,
- (7) 2-(3,5-difluorophenyl)-3-(4-methylsulfonylphenyl)-2-cyclopenten-1-one,
- 20 (8) 1-fluoro-4-(2-(4-methylsulfonylphenyl)-1-cyclopenten-1-yl)benzene,
- (9) 4-(5-(4-chlorophenyl)-3-trifluoromethyl-1H-pyrazol-1-yl)benzenesulfonamide,
- (10) 4-(2-methyl-4-phenyloxazol-5-yl)benzenesulfonamide,
- 25 (11) 4-(2-oxo-3-phenyl-2,3-dihydroxazol-4-yl)benzenesulfonamide,
- (12) 1-(3,3-dimethyl-5-(4-methylsulfonylphenyl)cyclopenta-1,4-dien-1-yl)-4-fluorobenzene,
- (13) 4-(2-(4-methoxyphenyl)-4-methylpyrrol-1-yl)benzenesulfonamide,
- 30 (14) etoricoxib,
- (15) 4,4-dimethyl-2-phenyl-3-(4-methylsulfonylphenyl)cyclobutanone,

- (16) 5-(4-methylsulfonylphenyl)-6-phenyl[1,3]thiazole[3,2-b][1,2,4]triazole,
- (17) 4-(6-fluoro-7-methoxy-3-trifluoromethylisothiochromeno[4,3-c]pyrazol-1(5H)-yl)benzenesulfonamide,
- 5 (18) licofelone,
- (19) 4-[5-(4-chlorophenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (20) N-acetyl-4-[5-(4-methylphenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- 10 (21) 4-[5-(4-methylphenyl)-3-chloromethyl-1H-pyrazol-1-yl]-benzenesulfonamide,
- (22) 4-[5-(4-methylphenyl)-3-methyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (23) 4-[5-(2-methylphenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- 15 (24) 4-[5-(3-methylphenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (25) 4-[5-(2-chlorophenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- 20 (26) 4-[5-(3-chlorophenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (27) 4-[5-(4-methylphenyl)-3-n-propyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (28) 4-[5-(4-methylphenyl)-3-ethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- 25 (29) 4-[5-(4-methylphenyl)-3-isopropyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (30) 4-[5-phenyl-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- 30 (31) 4-[5-(2-methoxyphenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (32) 4-[5-(3-methoxyphenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (33) 4-[5-(4-methoxyphenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- 35 (34) 4-[5-(3-fluorophenyl)-3-trifluoromethyl-1H-pyrazol-1-

- yl]benzenesulfonamide,
- (35) 4-[5-(4-fluorophenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (36) 4-[5-(2-fluorophenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- 5 (37) 4-[5-(3,4-dimethoxyphenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (38) 5-(4-methylphenyl)-1-(4-methylsulfonylphenyl)-3-trifluoromethyl-1H-pyrazole,
- 10 (39) 5-(4-methylphenyl)-1-(4-fluorophenyl)-3-trifluoromethyl-1H-pyrazole,
- (40) 5-(4-methylphenyl)-1-(3-chlorophenyl)-3-trifluoromethyl-1H-pyrazole,
- (41) 5-(4-methylphenyl)-1-(2-chlorophenyl)-3-trifluoromethyl-1H-pyrazole,
- 15 (42) 5-(4-methylphenyl)-1-(4-chlorophenyl)-3-trifluoromethyl-1H-pyrazole,
- (43) 4-[5-(3,4-dimethylphenyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- 20 (44) 4-[5-(3-pyridyl)-3-trifluoromethyl-1H-pyrazol-1-yl]benzenesulfonamide,
- (45) 4-[5-methyl-3-(4-bromophenyl)isoxazol-4-yl]benzenesulfonamide, and
- (46) 5-methyl-3-phenyl-4-(4-methylsulfonylphenyl)isoxazole,
- 25 or a pharmaceutically acceptable salt thereof as an active ingredient.

4. The large conductance calcium-activated K channel opener according to Claim 1, wherein the opener contains a compound selected from the group consisting of:

30

- (1) celecoxib,
- (2) rofecoxib,
- (3) valdecoxib,
- (10) 4-(2-methyl-4-phenyloxazol-5-yl)benzenesulfonamide,
- 35 (21) 4-[5-(4-methylphenyl)-3-chloromethyl-1H-pyrazol-1-yl]benzenesulfonamide,